

Appl. No. 10/605,197
Amdt. dated December 8, 2004
Reply to Office action of September 08, 2004

REMARKSAmendments to the Claims

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Considering the Examiner's statement identifying claims 3-9 and 12-18 as allowable but rejected, the claims are accordingly amended to provide four independent sets of claims described as follows.

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Claim 1 is amended to include all limitations of claim 3, which is cancelled. Claim 4 is amended for proper dependency. Claims 6-9 are cancelled to avoid redundancy.

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New claim 19 includes all limitations of original claims 1 and 6. New claims 20-23 correspond to original claims 2 and 7-9.

Claim 10 is amended to include all limitations of claim 12, which is cancelled. Claim 13 is amended for proper dependency. Claims 15-18 are cancelled to avoid redundancy. Claim 10 is also amended to correct the obvious typographical error of "pumping" in the preamble.

New claim 24 includes all limitations of original claims 10 and 15. New claims 25-28 correspond to original claims 11 and 16-18.

In addition, in claims 10, 13, 24, and 27, the term "negative charge pump" is revised to "positive charge pump" as will be explained in the next section.

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No new matter is entered by any of these amendments. All cancelled claims are cancelled without prejudice or disclaimer to the merits thereof. Consideration of all amendments is respectfully requested.

Rejections under 35 USC 112, First Paragraph and Objections to Drawings

Regarding claims 10, 11, 13, 14, and 24-28 (originally 10-18), the specification in paragraph [0027] identifies element 132 as a "positive charge pump". This is the basis for revising the term "negative charge pump" to "positive charge pump" in claims 10, 13, 24, and 27.

Correspondingly, a proposed correction to Fig.5 is also provided as attached. In this proposed correction, element 132 is labeled as "positive charge pump", this being the sole change made.

It should be readily apparent that the embodiments are complementary. That is, the embodiment relating to Fig.3 and paragraphs [0022]-[0026] uses PMOS transistors and a negative charge pump, while the embodiment relating to Fig.5 and paragraphs [0027]-[0030] uses NMOS transistors and a positive charge pump. Accordingly, other elements, voltages, connections, etc are complementary.

The nature of this error is typographical or translation-related. Accordingly, the applicant requests that

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the amendment in the appropriate claims to "positive charge pump"
and the corresponding proposed correction to Fig.5 be regarded
as cosmetic, and not require a new search or additional
5 consideration.

Consideration of the proposed correction to Fig.5 and the
corresponding amendment to the claims is respectfully requested.
These amendments should suffice to overcome both the drawing
10 objections and the related 35 USC 112, first paragraph
rejections.

Rejections under 35 USC 112, Second Paragraph

15 The applicant generally agrees that voltage-controlled
oscillators can provide variable frequencies according to
variable input voltages. The applicant also agrees with the
Examiner's statement, in that the oscillator 84 can have a fixed
frequency that is turned on or off based on the output of element
20 88 (which effectively provides a *digital output*). However, the
applicant contends that a *digital output* connected to a
well-known voltage-controlled oscillator would, as implied by
the Examiner's own reasoning, act as an equivalent
fixed-frequency oscillator. In addition, one of ordinary skill
25 in the art would likely consider any/all oscillators
(fixed-frequency, voltage-controlled, etc) when designing a
device in accordance with the invention.

Thus, to avoid confusion, paragraph [0022] is amended to
30 recite "an oscillator 84, for example a voltage-controlled

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oscillator or similar device," as supported by the original claims. No new matter is entered.

5 Withdrawal of this rejection is respectfully requested in view of the above explanation and the amendment to the specification.

10 Rejection of claims 1, 2, 10, and 11 under 35 U.S.C. 103(a) as being unpatentable over Seo et al. (US 6,518,828) in view of Chem (US 5,039,877)

15 Seo et al. teach diodes rather than transistors, however, the Examiner considers these to be equivalent. The applicant asserts that in some situations diodes and transistors can perform differently. The applicant also notes that Seo et al. also teach a clock adjusting unit 24 provided between the amplifier 22 and the pump 21.

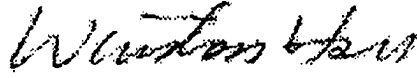
20 However, withdrawal of this rejection is respectfully requested in view of the above-described amendments to the claims.

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Sincerely yours,

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communication.)

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Attachments:
Fig.5 Replacement Sheet (1 page)